# McKinsey&Company

# **Improving NYPD Emergency Preparedness and Response**



August 19, 2002

This report was prepared by McKinsey & Company based upon information provided by the New York Police Department.

#### CONTEXT

- The attacks of September 11 were unprecedented. The response of the New York Police Department was remarkable and heroic and contributed to the saving of countless lives.
   23 members of the NYPD gave their own lives on that day. Nothing in this report is intended to detract from the courageous actions of them, the Department, or other responders
- The extraordinary events of September 11 have caused a paradigm shift in the way U.S. and local law enforcement must contemplate emergency preparedness and response. We must now be ready for contingencies that seemed virtually impossible just months ago. It is within this context that we have undertaken this review
- The purpose of this review is to explore what lessons the NYPD can learn from the events
  of September 11. It is not a critique of the individual actions of NYPD personnel, but rather
  an attempt to identify potential improvement opportunities in order to better prepare the
  Department for future emergencies
- The NYPD asked McKinsey to facilitate this review as an objective fact gatherer and observer, not as an expert in emergency response. In the main, it is a synthesis of observations and opinions from within the Department, drawn from interviews, surveys, and documentary records

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- Executive summary
- Project description
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  - Review of NYPD objectives and how well they were achieved on 9/11
  - Assessment of NYPD's instruments of response and how well they were brought to bear
  - Improvement opportunities for the future
- Next steps
- Appendices
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#### **EXECUTIVE SUMMARY**

- Focus. This report is the result of a four-month collaboration between McKinsey & Co.
  and the New York Police Department. Our focus has been to conduct an internal review of
  the NYPD's response to the attacks of September 11, and to determine what lessons the
  department can learn to improve its disaster preparedness and response capabilities
  going forward
- Sources of data. Our findings are based on over 100 interviews conducted with members
  of the service of all ranks and virtually all commands, as well as a series of surveys
  administered to over 700 officers (including many who responded on the morning of
  September 11). In addition, we were granted access to documentation, including, for
  example, operational logs, precinct disaster plans, and tapes of radio transmissions
- We have examined the events of September 11 through two lenses:
  - Objectives. The first pertains to the objectives of the NYPD during a disaster, which we have defined as Rescue, Transportation, Site Security, Investigation, and Citywide Security. We further subdivide each of these categories into a total of 16 specific tasks on 9/11, such as the rescue of civilians prior to the collapse of the towers (part of Rescue), on-site traffic management (part of Transportation), and perimeter security (part of Site Security). We find that the Department performed 10 of the 16 tasks effectively, while six presented significant challenges

### **EXECUTIVE SUMMARY** (CONTINUED)

- Instruments. The second area relates to the "instruments" at the NYPD's disposal to achieve these objectives. We have defined these instruments as Operational Command, Communications, Personnel, Logistics/equipment, Intelligence, Training, and Planning. Largely as a result of the unprecedented nature of the attacks, we found that each of these instruments posed challenges in the NYPD's response capabilities to varying degrees. This review concentrates on those instruments that exhibited deficiencies in order to identify improvement opportunities and make the NYPD better prepared for future emergencies
- Improvement opportunities. Our assessment of response objectives and instruments led to a list of improvement opportunities. We have identified twenty such opportunities, six of which we believe to be critical and worthy of immediate attention:
  - A clearer delineation of roles and responsibilities of NYPD leaders
  - Better clarity in the chain of command
  - Radio communications protocols and procedures that optimize information flow
  - More effective mobilization of members of the service
  - More efficient provisioning and distribution of emergency and donated equipment
  - A comprehensive disaster response plan, with a significant counter-terrorism component
- Next steps. The Department will develop and implement specific action plans to address each of the areas outlined in this report through the creation of a series of task forces, which will turn the opportunities we have identified so far into actions. We further propose that, while these internal improvement opportunities are being addressed, the NYPD (and the City) must address the issue of coordination among the various federal, state, and local agencies in both planning for, and responding to, catastrophic emergencies

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#### **FOCUS OF STUDY**

#### Focus of study

- Internal review of the NYPD's response on 9/11
- Assessment of the NYPD's primary objectives in responding to a large disaster
- Analysis of the various means of response available to the NYPD to achieve its objectives
- Identification of improvement opportunities worthy of action by the Department to improve its response to future emergencies

#### Out of scope

- Improvements the NYPD and various other federal, state, and local agencies should undertake to improve interagency coordination and collaboration in planning for and responding to emergencies (this must be addressed now that the necessary internal improvements are understood)
- Scenario planning, including predicting various types of terrorist incidents that could take place in New York
- Detailed, exhaustive, or investigative account of every aspect of 9/11
- Best practices or specific recommendations for NYPD actions (this will be addressed by NYPD task forces)

# **INFORMATION SOURCES**



Surveys

Documentary/ audiovisual records

Ranks Covered	
Civilian leadership	7
Chiefs	31
Inspectors	19
Captains	19
Lieutenants/Sergeants	19
Police Officers	14
Total	109
Commands Covered	
Patrol Services	19
SOD	22
Detectives	7
OCCB	13
Housing	2
Transit/TCD	8
Operations Division	8
Communications	4 2
Intelligence	3
JTTF Discrete Control Unit	4
Disorder Control Unit	17
Other	
Total	109

# **INFORMATION SOURCES**

Interviews



Documentary/ audiovisual records

Su	rvey group	Objective
1.	NYPD field personnel: Random sample of Police Officers through Lieutenants	<ul> <li>Acquire better understanding of location and movement of force on 9/11 and collect opinions on response and preparedness</li> </ul>
2.	First responders: MOS who responded to disaster area on 9/11	<ul> <li>Supplement findings from field survey with observations from first responders</li> </ul>
3.	Special Operations Division: ESU, Harbor, and Aviation Units	<ul> <li>Gain insight into views of specialized disaster responders</li> </ul>

#### INFORMATION SOURCES

Interviews

**Surveys** 

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#### Survey of NYPD documents relating to 9/11

- Radio transcripts
- Operations log
- Deployment logs
- WTC briefings
- Criminal Justice Bureau report
- SWAMP site maps
- · Incident reports by miscellaneous units

#### NYPD emergency response plans and procedures

- Patrol Guide
- Disorder Control Guidelines
- Training manuals
- Precinct disaster plans
- Citywide Security Assessment Plan

#### Audiovisual sources relating to 9/11

- Tapes of NYPD radio transmissions
- 911 calls
- Video footage of incident

#### PROJECT STRUCTURE

Police Commissioner Raymond Kelly

#### **Steering Committee**

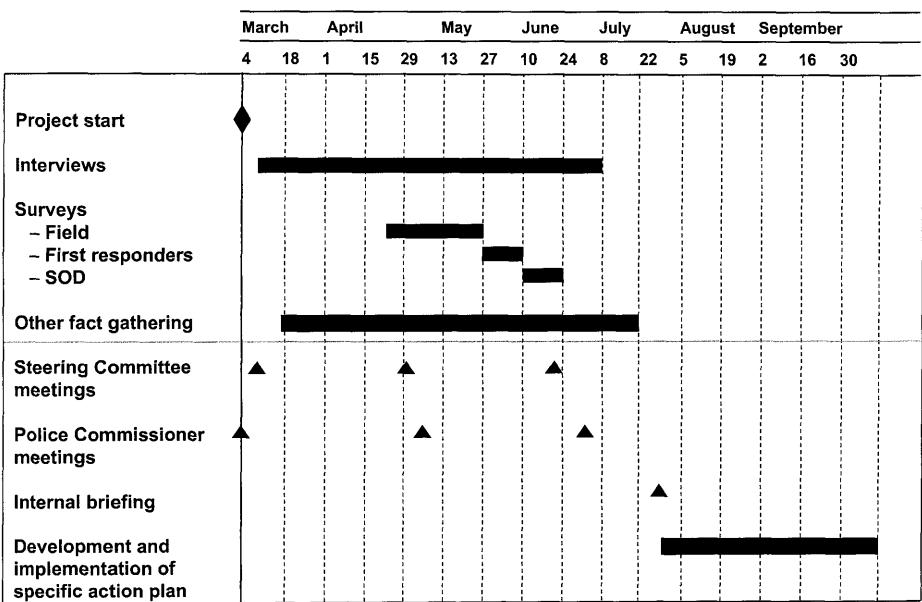
- Deputy Commissioner of Strategic Initiatives Michael Farrell
- Assistant Chief Joanne Jaffe
- Executive Chief Surgeon Gregory Fried
- Inspector John Colgan

#### **McKinsey Project Team facilitated by OMAP**

- 4 Partners
- 3 Associates
- 2 Business Analysts
- Support staff

#### **TIMING**





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#### FIVE KEY EMERGENCY OBJECTIVES

#### Rescue







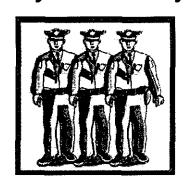
**Citywide Security** 











- The NYPD has never before stated its objectives in a large-scale disaster. Many leaders of the Department indicated that they operate primarily on instinct and experience during an emergency rather than according to a prioritized or structured set of objectives
- However, we found that virtually all of the NYPD's activities during the response could be categorized according to five primary objectives: Rescue, Transportation, Site Security, Investigation, and Citywide Security (we define each of these areas on the following page)
- We further believe that using this framework could improve the efficiency of the Department's response in the future

#### NYPD EMERGENCY OBJECTIVES

#### Rescue



#### Relevant tasks to September 11

- Pre-collapse rescue of civilians in and around WTC
- · Post-collapse search for and rescue of survivors
- Evacuation of all non-emergency personnel from southern Manhattan

**Transportation** 



- Maintenance of on-site traffic access for emergency vehicles
- Identification and clearance of off-site routes for emergency vehicles
- Management of citywide traffic flow
- Evacuating and securing subway system

**Site Security** 



- Establishing and maintaining inner and outer perimeters
- · Policing immediate area of disaster scene
- Assessing and managing risks of hazardous materials and secondary attacks at incident site

Investigation



- Collecting evidence relevant to attack
- · Identifying victims and compiling missing persons list
- Apprehending suspects connected to attack

**Citywide Security** 



- Protecting and evacuating sensitive locations around the city
- Assessing and preventing further terrorist threats to the city
- Maintaining basic police functions and reducing fear throughout the city

#### RESCUE



On 9/11, the NYPD rescue function consisted of three primary components: the rescue of civilians from inside the towers prior to the building collapses, the post-collapse search for survivors, and the evacuation of civilians from southern Manhattan. We found that the Department performed the pre-collapse rescue and evacuation of civilians effectively; however, the post-collapse search for survivors proved extremely risky given the lack of equipment, training, and supervision among the hundreds of responders.

#### **Tasks**

#### Pre-collapse rescue of civilians in and around WTC

- Post-collapse search for and rescue of survivors
- Evacuation of all non-emergency personnel from southern Manhattan

- ESU and other first responders responded to site at 0852 hours and effectively carried out rescue operations in WTC complex
  - 5 ESU teams deployed into buildings and plaza; sixth team prepared for helicopter rescue (which was ultimately deemed impossible)
  - 40 ESU personnel on site prior to collapse of WTC2
  - Many non-ESU MOS also assisted in pre-collapse rescue
- Department demonstrated strong discipline, evidenced by measured response
- Hundreds of untrained, under-equipped, and unsupervised MOS (both onand off-duty) formed bucket brigades on site which, while admirable, exposed large numbers to high level of risk
- Estimated 600-700 NYPD officers searched for survivors each day for several weeks following attacks
- Thousands of civilians calmly and rapidly evacuated northwards, across bridges and by Harbor Unit boats and other vessels
  - As many as 5,000 civilians evacuated by Harbor Unit to New Jersey and Staten Island

### **TRANSPORTATION**



The transportation function had four components on 9/11: the maintenance of on-site access for emergency vehicles, the clearance of off-site routes for emergency vehicles, the management of citywide traffic, and the protection of the subway system. The NYPD performed effectively in all but the first of these areas. Severe congestion around the incident site – particularly from emergency vehicles – could have severely hampered the rescue effort had more survivors been located.

Tasks	Assessment
Maintenance of on-site traffic access for emergency vehicles	NYPD unable to prevent severe congestion caused by large number of emergency vehicles parked close to site  Debrie and about a severe disable assessment bindered movement.
	<ul> <li>Debris and abandoned/destroyed vehicles severely hindered movement around scene</li> </ul>
	<ul> <li>Traffic personnel mobilized at Canal St, with 700-800 officers assigned daily to traffic control around disaster zone</li> </ul>
<ul> <li>Identification and clearance of off-site routes for emergency vehicles</li> </ul>	<ul> <li>Major routes, including bridges and tunnels, opened quickly to emergency vehicles leading both to WTC and area hospitals</li> <li>Traffic Management Center worked effectively with Aviation Unit and</li> </ul>
	Communications Division to notify responders of best routes to WTC and mobilization points
<ul> <li>Management of citywide traffic flow</li> </ul>	Traffic around the city well managed under chaotic circumstances
<ul> <li>Evacuating and securing subway system</li> </ul>	<ul> <li>Subway system quickly emptied after attack and effectively used to assist evacuation of lower Manhattan</li> </ul>
	<ul> <li>Transit Bureau rapidly deployed security personnel to subway to aid in evacuation and protect transit system from attack</li> </ul>

#### SITE SECURITY



The security of the incident site itself is critical to an effective response. On 9/11, this objective had three main components: the maintenance of inner and outer security perimeters, policing the disaster zone, and managing secondary attack risks and hazardous materials within the site itself. Each of these areas presented challenges – particularly the securing of perimeters around the site, which took days to accomplish, and the management of onsite risks, which were not made a priority as the rescue effort was pursued.

#### **Tasks**

- Establishing and maintaining inner and outer perimeters
- Due to inconsistent control of access and absence of effective credentialing system, perimeter security not adequately established, allowing large numbers of unnecessary personnel to enter site
  - Effective credentialing system and portable fencing not put into place until 9/16
- Systematic search of buildings surrounding WTC site began 4-5 days after attack and was not complete until months later
- Policing immediate area of disaster scene
- NYPD unable to fully safeguard property around site. Six looting arrests made on 9/11; 54 arrests through 10/11
- Assessing and managing risks of hazardous materials and secondary attacks at incident site
- Risk of secondary attack not made a priority as rescue effort vigorously pursued
  - Leadership unclear about how to acquire appropriate resources (e.g., U.S. military air support) to defend against additional attacks
  - ESU team prepared for tactical operation in event of subsequent ground attack
- Heavy particulate asbestos found at site within hours; however, freon, cadmium, and other hazardous materials identified at landfill weeks later, posing some risks to responders

#### INVESTIGATION



The investigation itself consisted of three areas: evidence collection, victim and missing person identification, and the apprehension of suspects. In fact, the investigative aspect of the response was primarily given over to federal law enforcement, although where the NYPD did play a significant role (e.g., establishment of morgues, compilation of missing persons list), it performed effectively.

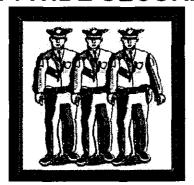
#### **Tasks**

#### Collecting evidence relevant to attack

- Identifying victims and compiling missing persons list
- Apprehending suspects connected to attack

- Evidence collection appropriately given low priority on 9/11 but vigorously pursued in the following days
  - FBI assumed juridiction over investigation when attacks determined to be terrorism (within minutes of second strike)
  - Evidence at WTC site collected and recorded by crime scene investigators, detectives, police officers, FBI and Medical Examiner personnel
  - Fresh Kills landfill designated as evidence collection site by 9/12
- Temporary morgue established at Pier 94 by 1252 hours, and identification of bodies well organized
- Compilation of missing persons list complicated by involvement of multiple agencies, leading to over 16,000 missing person reports
- Intelligence Division and Detective Bureau ably assisted federal investigation into attack, although could have been given greater role

#### CITYWIDE SECURITY



Maintaining order around the rest of the city is a critical aspect of the response to a large disaster, generally consisting of protecting sensitive locations, preventing further terrorism, and maintaining basic police functions around the city. In each of these areas the Department performed effectively, though plans called for coverage of an unrealistic number of sensitive locations, of which only 13% received additional protection.

#### **Tasks**

- Protecting and evacuating sensitive locations around the city
- Assessing and preventing further terrorist threats to the city
- Maintaining basic police functions and reducing fear throughout the city

- Emergency plans called for coverage of unrealistic number of sensitive locations (2,600+) but key locations (approximately 350) were quickly protected and/or evacuated
  - Key sites quickly evacuated including City Hall (0905 hours), United Nations (0915 hours), and Empire State Building (0918 hours)
- Checkpoints quickly established at all bridges and tunnels
- NYPD lacked systematic intelligence and threat assessment function and had difficulty assessing risk of further terrorist attack in weeks after 9/11
  - Heightened threat level maintained for several months following attack
- No significant problems with basic police functions across city (e.g., crime levels fell sharply after 9/11)
- NY State Police and other jurisdictions were used to supplement citywide coverage
- 911 operations at Metrotech able to handle 75% increase in call volume on 9/11

### SUMMARY OF EMERGENCY OBJECTIVES

#### Response shortfalls in bold

#### Rescue



#### Relevant tasks to September 11

- Pre-collapse rescue of civilians in and around WTC
- Post-collapse search for and rescue of survivors
- Evacuation of all non-emergency personnel from southern Manhattan

#### **Transportation**



- Maintenance of on-site traffic access for emergency vehicles
- Identification and clearance of off-site routes for emergency vehicles
- Management of citywide traffic flow
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**Site Security** 



- Establishing and maintaining inner and outer perimeters
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Investigation



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#### **Citywide Security**



- Protecting and evacuating sensitive locations around the city
- Assessing and preventing further terrorist threats to the city
- Maintaining basic police functions and reducing fear throughout the city

- The NYPD performed 10 out of the 16 tasks effectively
- There were some shortfalls, primarily in the areas of:
  - Post-collapse rescue
  - On-site traffic
  - Perimeter security
  - Policing the disaster scene
  - Secondary attack/hazard management
  - Citywide threat assessment



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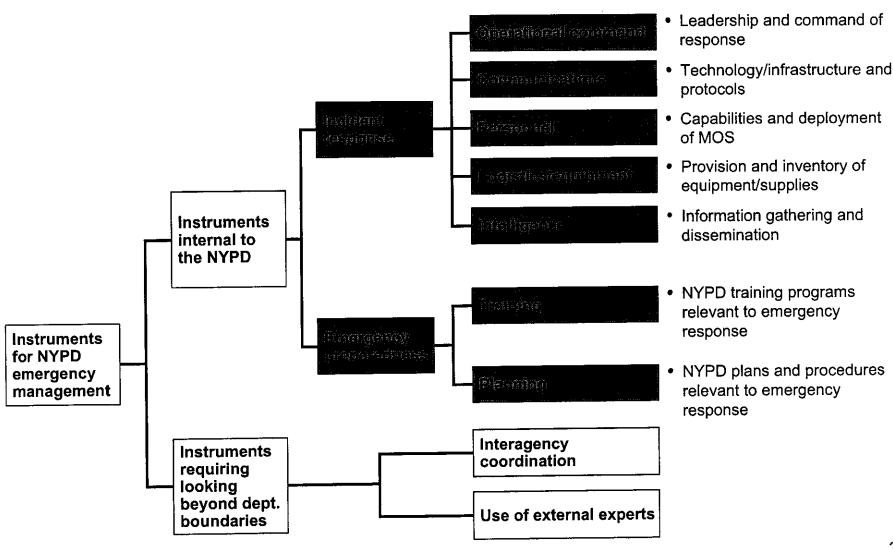
#### Findings



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# INSTRUMENTS AVAILABLE TO THE NYPD TO PREPARE FOR AND RESPOND TO EMERGENCIES





#### ALL OF THESE INSTRUMENTS HAD SUCCESSES AND FAILURES ON 9/11

- The extraordinary events of September 11 almost certainly would have pushed the limits of any conceivable set of response instruments at the NYPD's disposal. Given that, it is perhaps not surprising that almost every one of the response instruments faced challenges
- Many of the deficiencies were due to the unprecedented nature and scale of the events of 9/11; some were clearly unavoidable and some highlighted potential areas for improvement
- While there were a number of successes, this review concentrates on those instruments that exhibited shortfalls in order to identify improvement opportunities and make the NYPD better prepared for the future

# INSTRUMENTS FOR EMERGENCY MANAGEMENT – OPERATIONAL COMMAND

NYPD emergency instruments	Components	Performance on 9/11
Oleten of the first	<ul><li>Strategic direction</li></ul>	<ul> <li>Perceived lack of a single strong operational leader commanding response</li> </ul>
Communications		<ul> <li>Unclear roles and responsibilities among some senior leadership</li> <li>Large proportion of NYPD leadership responded to incident site and were therefore at risk</li> </ul>
Personnel	<ul> <li>Chain of command</li> </ul>	<ul> <li>Absence of clear command structure and direction on 9/11 and days after, leading to inadequate control of NYPD response (over 25% of MOS unsatisfied with supervision on 9/11)</li> </ul>
Logistics/ Equipment		<ul> <li>Many field commanders operated independently of one another and of higher levels of command</li> </ul>
Intelligence	<ul><li>Command Center</li></ul>	<ul> <li>Command Center at 1PP was underused by field commanders and could not effectively track and deploy NYPD resources</li> </ul>
Training	<ul><li>Command posts</li></ul>	<ul> <li>Confusion caused by number and continual movement of command posts on morning of 9/11</li> <li>Several ad hoc forward command posts set up on site, but</li> </ul>
Planning		no clearly identifiable, main command post established and maintained at a single location to control NYPD response  • Command post staff roles not systematically fulfilled

#### INSTRUMENTS FOR EMERGENCY MANAGEMENT – COMMUNICATIONS

NYPD	emergency
instru	ments

# Operational Command



#### Personnel

Logistics/ Equipment

Intelligence

**Training** 

Planning

#### Components

- Radio infrastructure
- Radio usage protocols
- Landlines and cellular equipment

#### Performance on 9/11

- Radio technology did not fail
- Less than 15% of MOS experienced radio communications failure (dead air) on 9/11
- Radios suffered from clutter in early phase of incident, and only 42% of MOS could clearly decipher traffic
- MOS highly reliant on cell phones, which were mostly inoperable because of system overload and infrastructure damage
- NYPD communications severely hampered by failure of landlines around site and at 1PP

# **INSTRUMENTS FOR EMERGENCY MANAGEMENT – PERSONNEL**

NYPD emergency instruments	Components	Performance on 9/11	
Operational Command	Mobilization levels	<ul> <li>Appropriate mobilization levels called within minutes of first attack, with sufficient MOS available to carry out necessary tasks</li> </ul>	f
Communications	Mobilization points	<ul> <li>Significant number of MOS (10% of survey respondents) went directly to site rather than mobilization points or permanent command</li> <li>Multiple mobilization points in early stages caused confusion and some duplication of effort</li> </ul>	
Logistics/ Equipment		<ul> <li>MOS not always properly rostered and tasked at mobilization points</li> </ul>	
Intelligence	<ul> <li>Off-duty mobilization and personnel management</li> </ul>	<ul> <li>Contrary to procedures, all tours responded to off-duty mobilization, leading to insufficient reserves</li> <li>Long tours in weeks after 9/11 may have hampered individual effectiveness, especially among leadership</li> </ul>	<b>'</b>
Training			
Planning			26

# INSTRUMENTS FOR EMERGENCY MANAGEMENT – LOGISTICS/EQUIPMENT

NYPD emergency instruments	Components	Performance on 9/11
Operational Command	<ul><li>Procurement and distribution</li></ul>	<ul> <li>Available equipment deployed quickly to site but many MOS did not know where to locate it</li> </ul>
Communications		<ul> <li>Donated equipment not well coordinated, leading to distribution and warehousing challenges</li> </ul>
Personnel	<ul> <li>NYPD equipment inventory</li> </ul>	<ul> <li>Specialized rescue equipment generally in good supply</li> <li>NYPD shorthanded on some personal protective equipment (e.g., gloves, goggles, respirators)</li> <li>Low confidence among MOS (11%) that NYPD requires</li> </ul>
		them to carry right equipment to deal with large disaster  • Sufficient barriers and perimeter fencing not in inventory and not procured for several days  • Majority of NYPD responders (82%) unaware of
Intelligence		decontamination facilities
Training		
Planning		

# **INSTRUMENTS FOR EMERGENCY MANAGEMENT – INTELLIGENCE**

NYPD emergency instruments	Components	Performance on 9/11
Operational Command	<ul><li>Information collection</li></ul>	NYPD could not have been expected to have information predicting WTC attack or structural building failures
Communications		<ul> <li>Aviation units, Intelligence, and Detective personnel quickly deployed to site to assess situation but efforts not well coordinated</li> </ul>
Personnel	Information	<ul> <li>Minimal intelligence sharing with federal agencies</li> <li>Significant lack of incident reporting and documentation</li> </ul>
Logistics/ Equipment	analysis	<ul> <li>No central point for collation and systematic analysis of information regarding incident, with leaders acting largely on personal observations</li> </ul>
	<ul> <li>Information dissemination</li> </ul>	<ul> <li>No clearinghouse for distilling, correcting, and disseminating accurate information to responders</li> <li>Field commanders and MOS throughout city not</li> </ul>
Training		regularly briefed about situation and NYPD strategy
Planning		

# **INSTRUMENTS FOR EMERGENCY MANAGEMENT – TRAINING**

NYPD emergency instruments	Components	Performance on 9/11
Operational Command	<ul> <li>Frequency and format of</li> </ul>	<ul> <li>Limited use and frequency of large-scale drills and simulations</li> </ul>
Communications	emergency training	<ul> <li>Little command or disaster response training for NYPD leaders after Captain school</li> </ul>
Personnel	<ul> <li>Counter-terrorism training</li> </ul>	<ul> <li>Minimal focus on counter-terrorism before 9/11 (about 85% of MOS received none) led to low awareness of threats</li> </ul>
Logistics/ Equipment	Rescue training	<ul> <li>Specialized training of ESU personnel resulted in efficient operations on 9/11</li> </ul>
Intelligence		
Planning		

#### **INSTRUMENTS FOR EMERGENCY MANAGEMENT - PLANNING**

NYPD emergency	/
instruments	

#### **Operational** Command

#### Communications

#### Personnel

### Logistics/ **Equipment**

#### Intelligence

#### **Training**

#### Components Performance on 9/11

- response
- Terrorist incident NYPD plans (e.g., Patrol Guide, precinct disaster plans) largely excluded terrorist response
- Protection of sensitive locations
- Precinct disaster plans contained impractical number (approx. 2,600) of sensitive locations that were not prioritized according to strategic importance or vulnerability to terrorist attack
- Post-incident analysis
- No formal systems/procedures for post-incident analysis meant that Department did not maximize learnings immediately after 9/11
- Specialized plans
- Traffic Division and Transit Bureau had highly developed emergency plans that were well understood and effectively implemented on 9/11